Electronic TUBES

6AG7

PENTODE

DESCRIPTION AND RATING

The 6AG7 is a metal, power-amplifier pentode primarily designed for use in the output stage of video amplifiers. The tube is capable of operating at high plate current levels and exhibits high transconductance and high power sensitivity.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC	6.3	Volts
Heater Current	0.65	Ampere
Direct Interelectrode Capacitances		
Grid to Plate: (g1 to p), maximum	0.06	μμf
Input: g1 to (h+k+g2+g3+s)	13	μμf
Output: p to (h+k+g2+g3+s)	7.5	μμf
Grid-Number 1 to Grid-Number 2: (g1 to g2), approximate	5.8	μμf
Grid-Number 1 to Cathode: (g1 to k), approximate	5.2	μμf
Heater to Cathode: (h to k), approximate	10.7	μμf

MECHANICAL

Mounting Position—Any
Envelope—MT-8, Metal Shell
Base—B8-21, Small Wafer Octal 8-Pin

MAXIMUM RATINGS

DESIGN-CENTER VALUES

Plate Voltage	300	Volts
Screen Voltage	300	Volts
Positive DC Grid-Number 1 Voltage	0	Volts
Plate Dissipation	9.0	Watts
Screen Dissipation	1.5	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	90	Volts
Heater Negative with Respect to Cathode	90	Volts
Grid-Number 1 Circuit Resistance		
With Fixed Bias	0.25	Megohms
With Cathode Bias	1.0	Megohms

Design-Center ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under normal conditions.

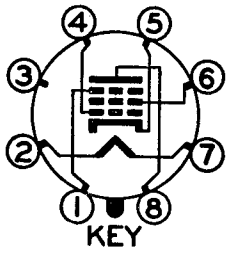
These values are chosen by the tube manufacturer to provide acceptable serviceability of the tube in average applications, taking responsibility for normal changes in operating conditions due to rated supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all tubes.

The equipment manufacturer should design so that initially no design-center value for the intended service is exceeded with a bogey tube in equipment operating at the stated normal supply-voltage.

GENERAL ELECTRIC

Supersedes ET-T268A dated 2-51

BASING DIAGRAM

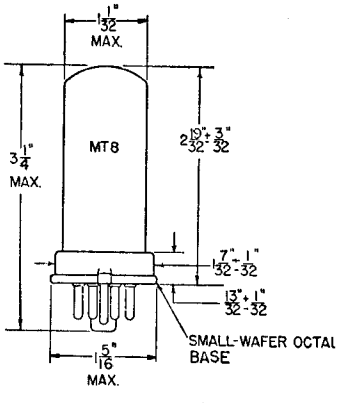


EIA 8Y

TERMINAL CONNECTIONS

Pin 1—Shell and Grid Number 3 (Suppressor)
Pin 2—Heater
Pin 3—No Connection
Pin 4—Grid Number 1
Pin 5—Cathode
Pin 6—Grid Number 2 (Screen)
Pin 7—Heater
Pin 8—Plate

PHYSICAL DIMENSIONS



EIA 8-6

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER

Plate Voltage	300	Volts
Screen Voltage	150	Volts
Grid-Number 1 Voltage	−3.0	Volts
Peak AF Grid-Number 1 Voltage	3.0	Volts
Plate Resistance, approximate	130,000	Ohms
Transconductance	11,000	Micromhos
Zero-Signal Plate Current	30	Milliamperes
Maximum-Signal Plate Current	30.5	Milliamperes
Zero-Signal Screen Current	7.0	Milliamperes
Maximum-Signal Screen Current	9.0	Milliamperes
Load Resistance	10,000	Ohms
Total Harmonic Distortion, approximate	7	Percent
Maximum-Signal Power Output	3	Watts

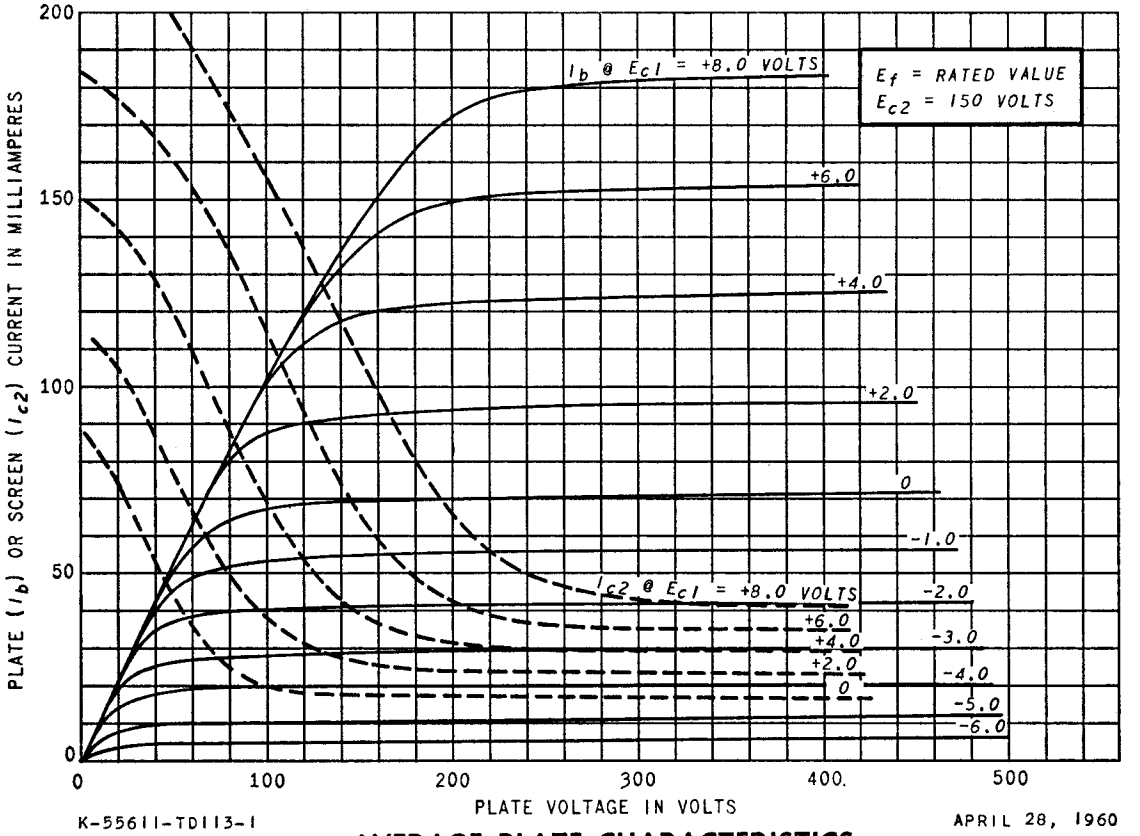
CLASS A_1 VIDEO VOLTAGE AMPLIFIER

4—Megacycle Bandwidth.

	Grid-Leak* Bias	Cathode Bias	
Plate Supply Voltage	300	300	Volts
Screen Voltage	115†	125‡	Volts
Grid-Number 1 Voltage	0**	−2.0	Volts
Grid-Number 1 Resistor, minimum	0.25	———	Megohm
Grid-Number 1 Resistor, maximum	0.5	———	Megohm
Cathode-Bias Resistor	——	57	Ohms
Cathode Bypass Capacitor, approximate	——	250	Microfarads
Grid-Number 1 Signal Voltage, peak to peak	4.0	4.0	Volts
Zero-Signal Plate Current	45	28	Milliamperes
Zero-Signal Screen Current	13	7.0	Milliamperes
Load Resistance	3500	3500	Ohms
Output Voltage, peak to peak	135	140	Volts

* Intended for use where d-c restoration is accomplished in the grid circuit of the 6AG7.
† Obtained from a regulated power supply.
‡ Obtained from the plate supply voltage through a screen-dropping resistor of 25,000 ohms.
**Zero-signal value.

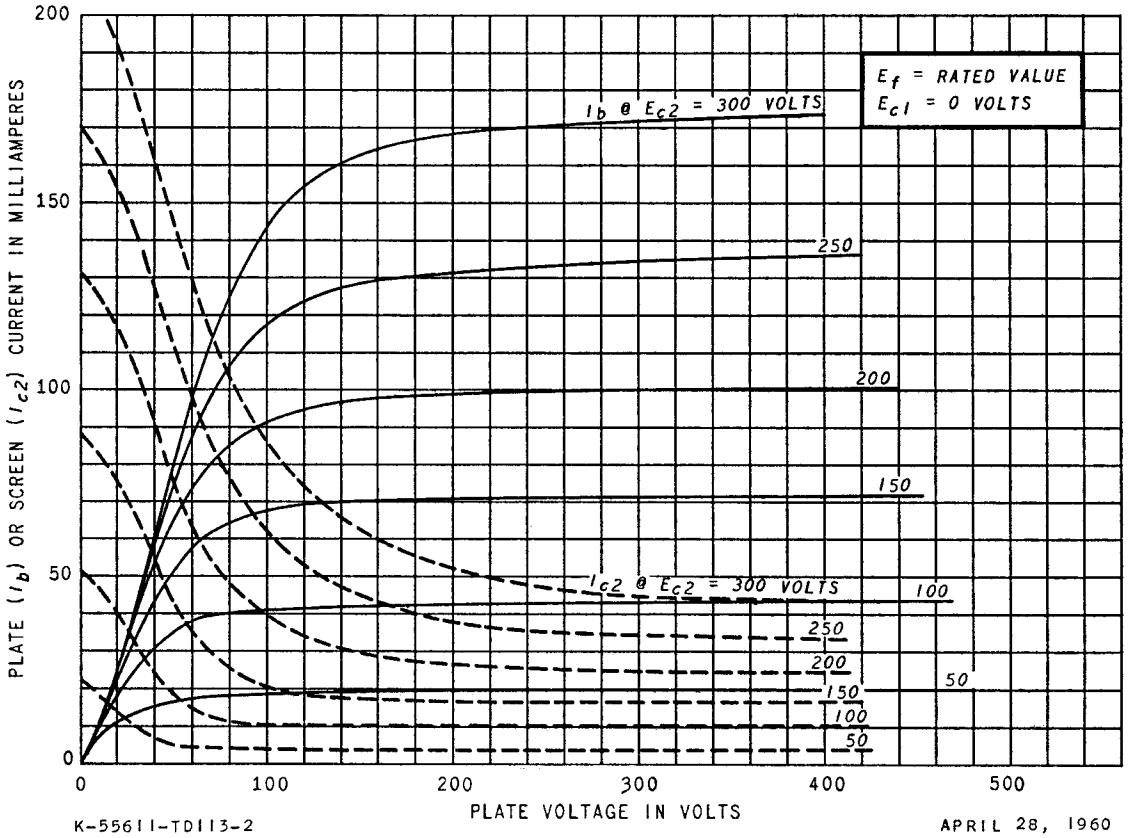
AVERAGE PLATE CHARACTERISTICS



K-55611-TD113-1

APRIL 28, 1960

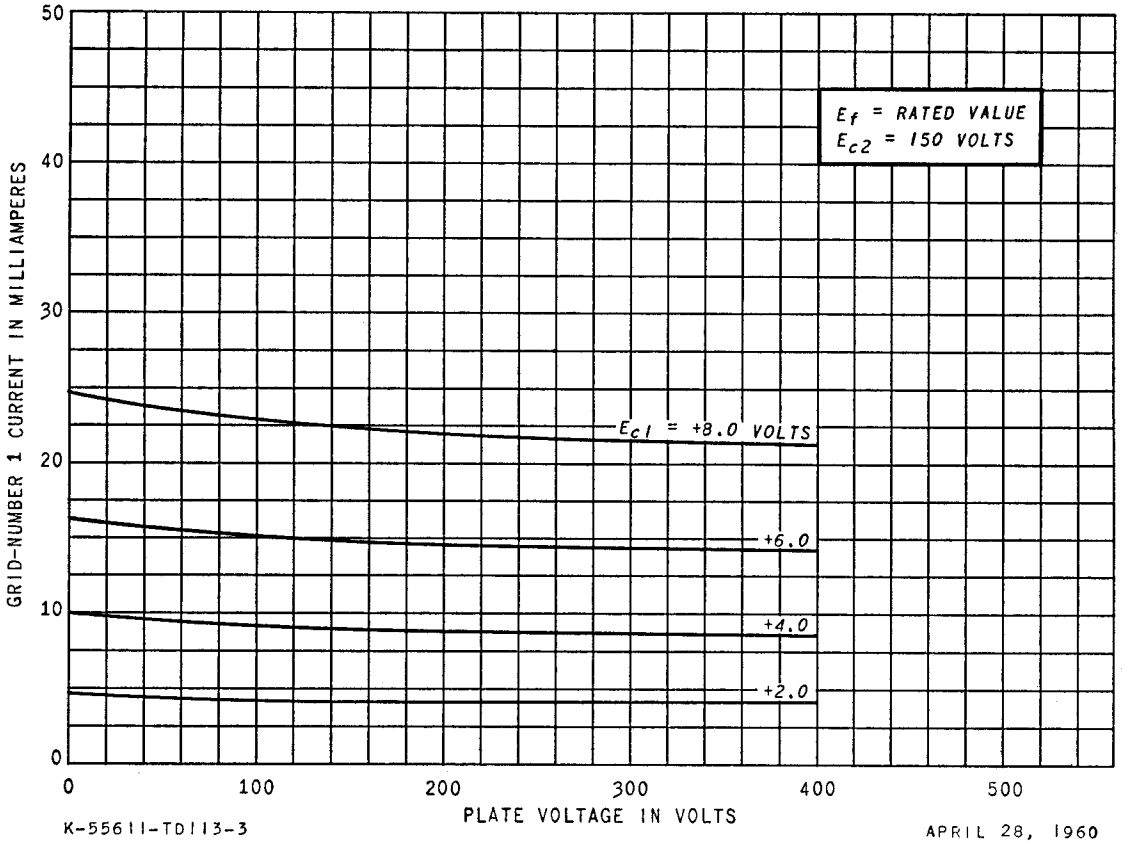
AVERAGE PLATE CHARACTERISTICS



K-55611-TD113-2

APRIL 28, 1960

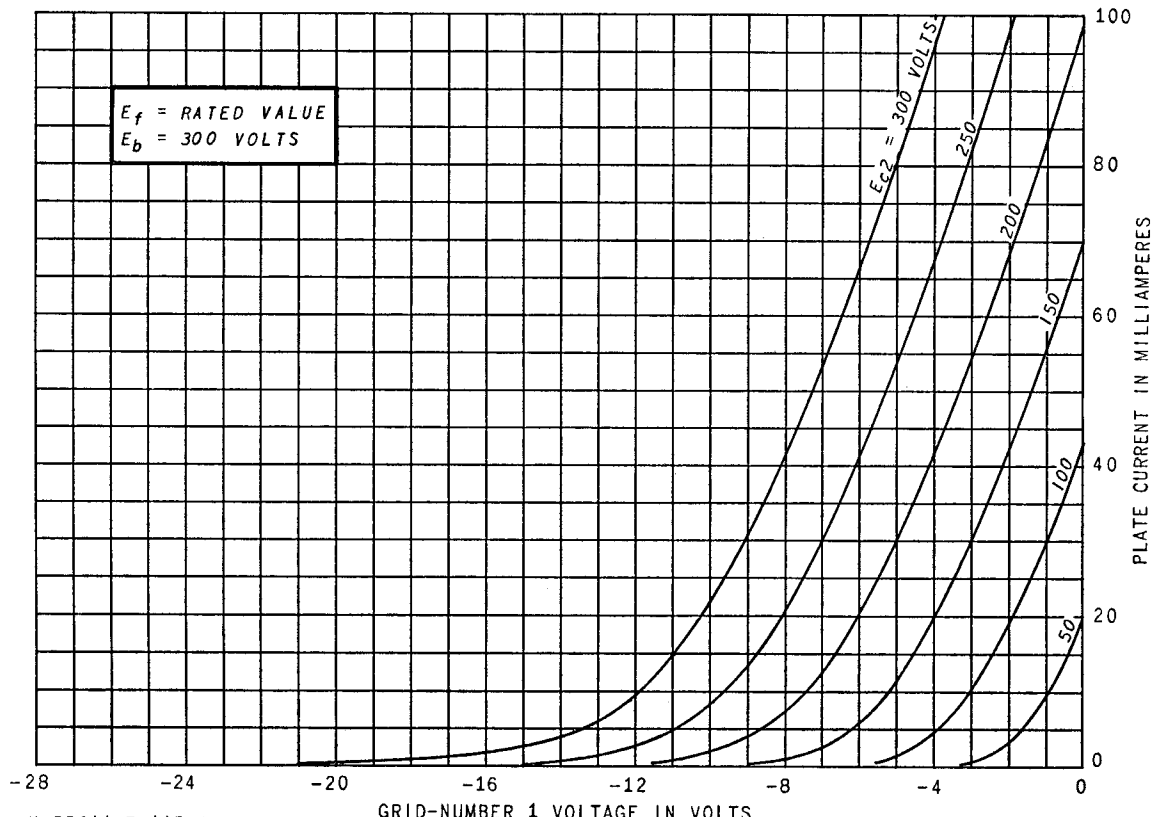
AVERAGE CHARACTERISTICS



K-55611-TD113-3

APRIL 28, 1960

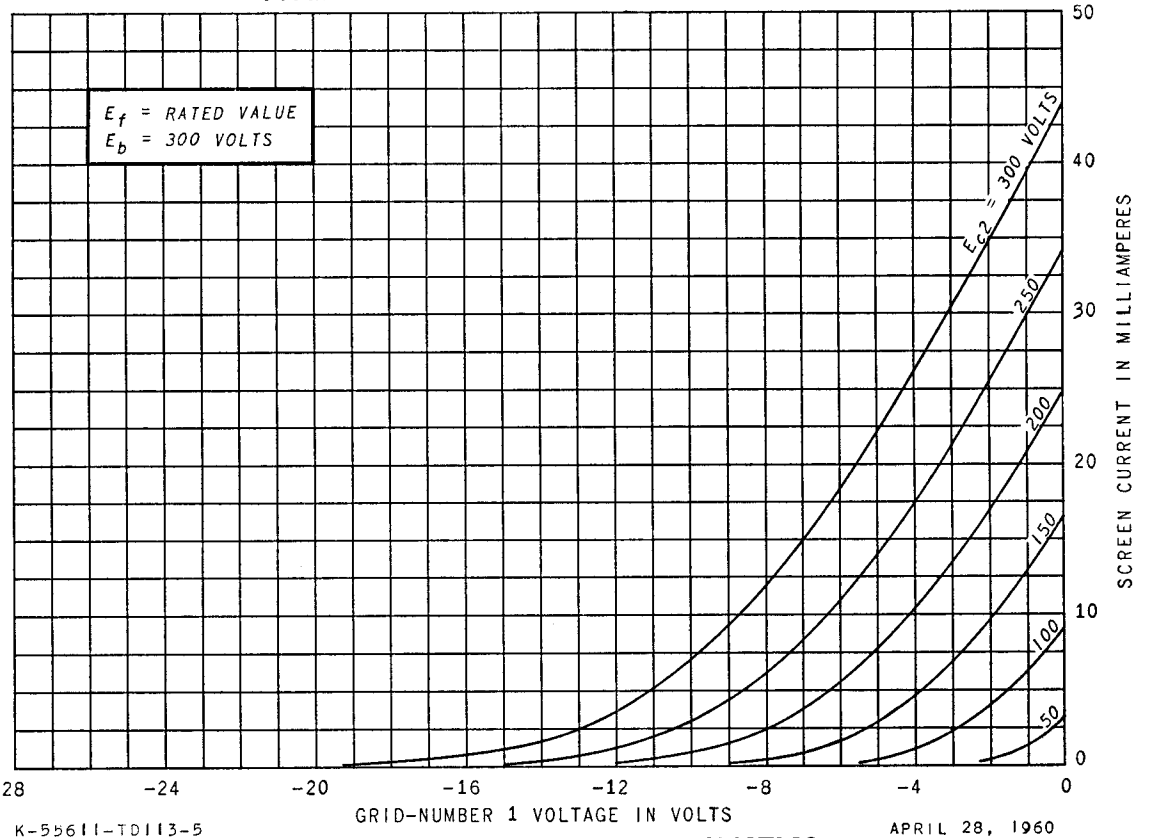
AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD113-4

APRIL 28, 1960

AVERAGE TRANSFER CHARACTERISTICS



K-5561I-TDII3-5

APRIL 28, 1960

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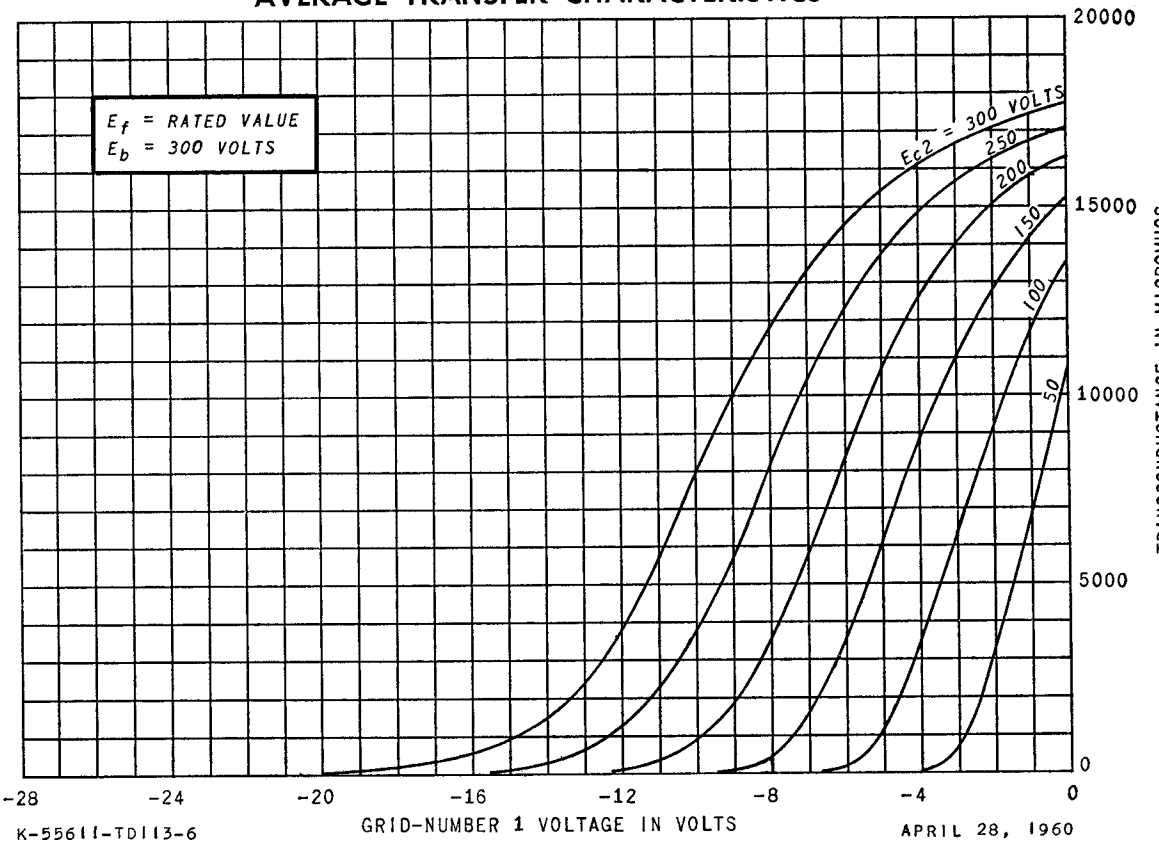

K-5561I-TDII3-6

APRIL 28, 1960